

AQUA INSERT+P

with pellet burner

INDEPENDENT of indoor air
DEPENDENT on indoor air



OPERATING MANUAL

with installation instructions

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Explanation of symbols

Important information in this manual is indicated by the following symbols:



NOTE: Instructions for correct use of the stove. It is the operator's responsibility to follow these instructions.



CAUTION: This symbol refers to particularly important notes.



DANGER: This symbol indicates important rules of conduct for avoiding injury or material damage.

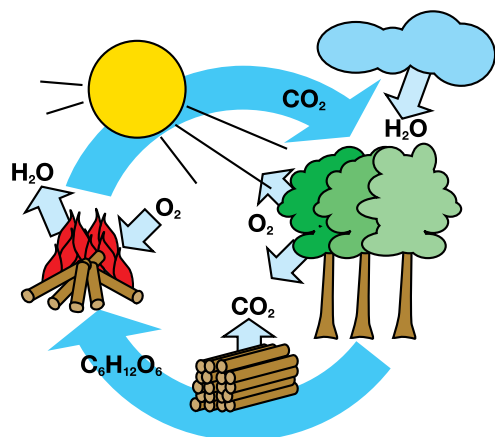
With the purchase of the AqualInsert insert stove you have selected a high-quality product made by LOHBERGER.

Apart from the beautiful and timeless design, we attach great importance to a mature combustion technology, high-quality materials as well as excellent workmanship.

Correct handling and proper care are a prerequisite for trouble-free operation and a long service life. Therefore please read the information in this operating manual carefully. With the above in mind, we are convinced that this appliance will give satisfactory service for many years.

Your LOHBERGER Heiz + Kochgeräte Technologie GmbH

Our contribution towards climate protection



During combustion, wood only emits the same amount of CO₂ that it previously held as a tree. It makes no difference whether the wood burns or rots in the forest.

Thus heating with wood corresponds to the natural biological cycle.

1. Safety instructions



Please read the information in this manual carefully before you install or start up your heating appliance for the first time.



Seek the advice of the local qualified chimney sweep before installing the appliance.

When installing the appliance, the technical regulations applicable at the installation site as well as country-specific regulations such as the applicable building regulations, local fire protection laws and/or additional regional regulations must be observed.



We strongly recommend that the connection and the installation work (in the case of self-installation the final inspection and approval) are always carried out by a certified specialist.

CAUTION! CHILDREN PLAYING!

The appliance becomes very hot when in use, in particular the viewing window and the body. Make sure that children are never in the immediate vicinity of the appliance when it is in use.

During installation and operation

- When installing the appliance, follow each of the instructions of the operating manual.
- Pay attention to the safety gaps when installing the appliance.
- Check the appliance for damage (e.g. glass items).
- Make sure that you never load more firewood than required for the rated heating output (approx. 1 to 2 kg).
- When adding more firewood, open the door slowly and first allow the flue gas to escape up the chimney. By doing this you prevent the flue gas from entering the room.
- Bear in mind that certain components of the appliance (filling door, handles, etc.) become hot when it is in operation and represent a burn hazard.
- Do not obstruct the appliance during heating as this could lead to an explosion.

2. Important instructions prior to installation and start-up



Before connecting the appliance to the chimney, inform the local qualified chimney sweep.



- Please read the information in this manual carefully before you install or start up your appliance for the first time.
- Failure to do so causes the warranty to become null and void!
- Keep this operating manual in a safe place. Should it be lost, we will be happy to send you a new copy. You will find important information in it as regards safety, use, proper care and maintenance of the appliance, so that you can enjoy your appliance for a long time.
- If there are any queries please contact our technical customer service.
- **The stove must not be modified, except with original stove components, provided and tested by us or by work performed by our service technicians.**



The proper dissipation of the heat output to the hot water system must be ensured (radiator / reservoir).



CAUTION: The chimney may have become obstructed when the stove is heated up again after it has been out of use for an extended period of time. Before re-starting the stove, have the chimney inspected by a specialist (chimney sweep).



Call the fire brigade via the emergency phone number.

CORRECT INSTALLATION AND START-UP

The safety of the appliance can only be assured if it has been installed by a trained technician in compliance with the standards and regulations applicable at the place of installation. Make sure that the requirements of the applicable laws and standards as well as the local fire protection laws and building regulations are adhered to. Please consult the local qualified chimney sweep regarding the assessment of building and technical conditions.

When operating the stove, make sure that there is an adequate supply of fresh air in the room where the appliance is located. An air exchange of at least 0.8 times per hour by means of a permanent and secure ventilation of the room must be ensured. If the windows and doors are tightly sealed or if other appliances such as extractor hoods, tumble driers, ventilators etc. draw air from the room where the appliance is located, it may be necessary to provide fresh combustion air from outside. The inlet apertures for combustion air must not be closed.

For the first 2 to 3 days run the stove with a low output. During the first few days of operation expansion cracks may form in the fireclay-cladding. However, this does not impair the functioning of the appliance.

PROPER OPERATION

Proper operation, in compliance with the installation instructions and with the operating manual as well as with the instructions regarding safety and environmental protection.

Bear in mind that the appliance is not childproof (doors, etc.) and therefore it must not be operated by children or other people who are not authorized or trained. If the appliance is not installed properly and if the instructions (as stated in the technical documentation and operating manual) regarding the start-up and operation of the appliance are not followed, all warranty claims will become null and void.

Only use suitable fuels by choosing environmentally-sustainable, high-quality and dry fuels (see Fuels).

CHIMNEY REQUIREMENTS FOR HEATING SYSTEMS

Before starting-up the appliance for the first time, the local qualified chimney sweep has to certify the suitability and readiness for operation of new or existing chimneys by a declaration of conformity.

The owner has to ensure that the chimney is free from obstructions (no coverings or blockages). Ensure that there is adequate ventilation (sufficient fresh air) in the stove room. Please point out existing faults and /or alterations with regard to the chimney and the heating system. Due to low exhaust gas temperatures when the seasons change the chimney must be leak-free and humidity-resistant. Make sure that flue and exhaust gas can escape freely to the outside.

REGULAR CLEANING AND MAINTENANCE

In order to ensure the functionality and efficiency of the appliance, regular maintenance and cleaning work must be carried out on every fireplace and all the connected system components (e.g. chimney, etc.).

Please observe the instructions regarding maintenance and cleaning in this operating manual. Your chimney sweep will also be happy to clean the fireplace. Only clean and properly adjusted appliances work efficiently.

Only install original spare parts provided by your local specialist dealer or by our company.

Parts that are subject to wear and tear (e.g. seals), components exposed to high thermal stress (fireclay, cast-iron parts) or broken stove parts should be replaced or exchanged as soon as possible.

Correct procedure in the event of chimney fires:

If the fireplace, connecting duct and chimney are not regularly cleaned or if unsuitable fuels are burned, the deposits may ignite, causing a chimney fire.

Keep the stove doors closed and turn the air regulators to position „0“. Move away combustible components from the chimney. UNDER NO CIRCUMSTANCES should you attempt to extinguish the chimney fire by applying water. The suddenly developing steam pressure is so high that the chimney could burst.

3. Transport / Unpacking / Inspection



Report visible faults to the supplier immediately. Later claims for damages cannot be entertained.

The packaging of your appliances provides good protection against damage in transit. Nevertheless, damage to the appliance and fittings cannot be entirely excluded.

Therefore carefully check the appliance for completeness and possible damage in transit after unpacking.

4. Important standards / guidelines

When installing and starting-up the appliance, observe the local fire protection laws and building regulations as well as the following standards / regulations:

ÖNORM (Austrian Standard) M7550

Central heating boiler up to 100 °C: definitions, requirements, tests, marking of conformity

ÖNORM (Austrian Standard) M7510/1
Regulations for the inspection of central heating systems.

ÖNORM (Austrian Standard) M7510/2

Guidelines for the inspection of central heating systems; standard values.

ÖNORM (Austrian Standard) B8130
Safety devices.

ÖNORM (Austrian Standard) B8131
Closed water heating systems; safety requirements.

ÖNORM (Austrian Standard) B8133
Safety requirements for water heating systems.

DIN 4751 Part 1

Safety devices for heating systems with flow temperatures of up to 110°C (120°C in preparation)

DIN 4751 Part 2

Safety devices for heating systems with flow temperatures of up to 110°C (120°C in preparation); open and closed water heating systems up to 349 kW (300000 kcal/h) with thermostatic safety device.

DIN 4751 Part 4

Safety devices for heating systems with flow temperatures of up to 120°C; closed water heating system with static heights exceeding 15 m or rated heat output over 350 kW.

DIN 1988: Drinking water supply systems on building sites (technical requirements).

ÖNORM (Austrian Standard) EN303-5

Boiler for solid fuels, charged manually and automatically up to 300 kW. Definitions, requirements, testing and marking of conformity

ÖNORM (Austrian Standard) M7135
Densified wood made of untreated wood or bark – wood pellets and briquettes.

ÖNORM (Austrian Standard) M7136
Densified wood made of untreated wood – wood pellets – quality assurance for transport and storage logistics.

ÖNORM (Austrian Standard) M7137
Densified wood made of untreated wood – wood pellets – Requirements for the customer's pellet storage room.

TRVB H118

Technical specifications regarding preventive fire protection for automatic wood-fired heating systems.

5. Special notes

- The appliance connections for the flue tube and the combustion air must not be altered. Make sure that the combustion air duct and the exhaust duct are free of obstructions before starting up and during operation of the appliance!
- When operating the appliance, please use the supplied protective gloves and the grate lifter.
- To prevent heat build-up, make sure that the convection air outlets are not closed.
- Keep the firebox door closed at all times. Avoid overheating the stove. The warranty does not cover any resulting damage.

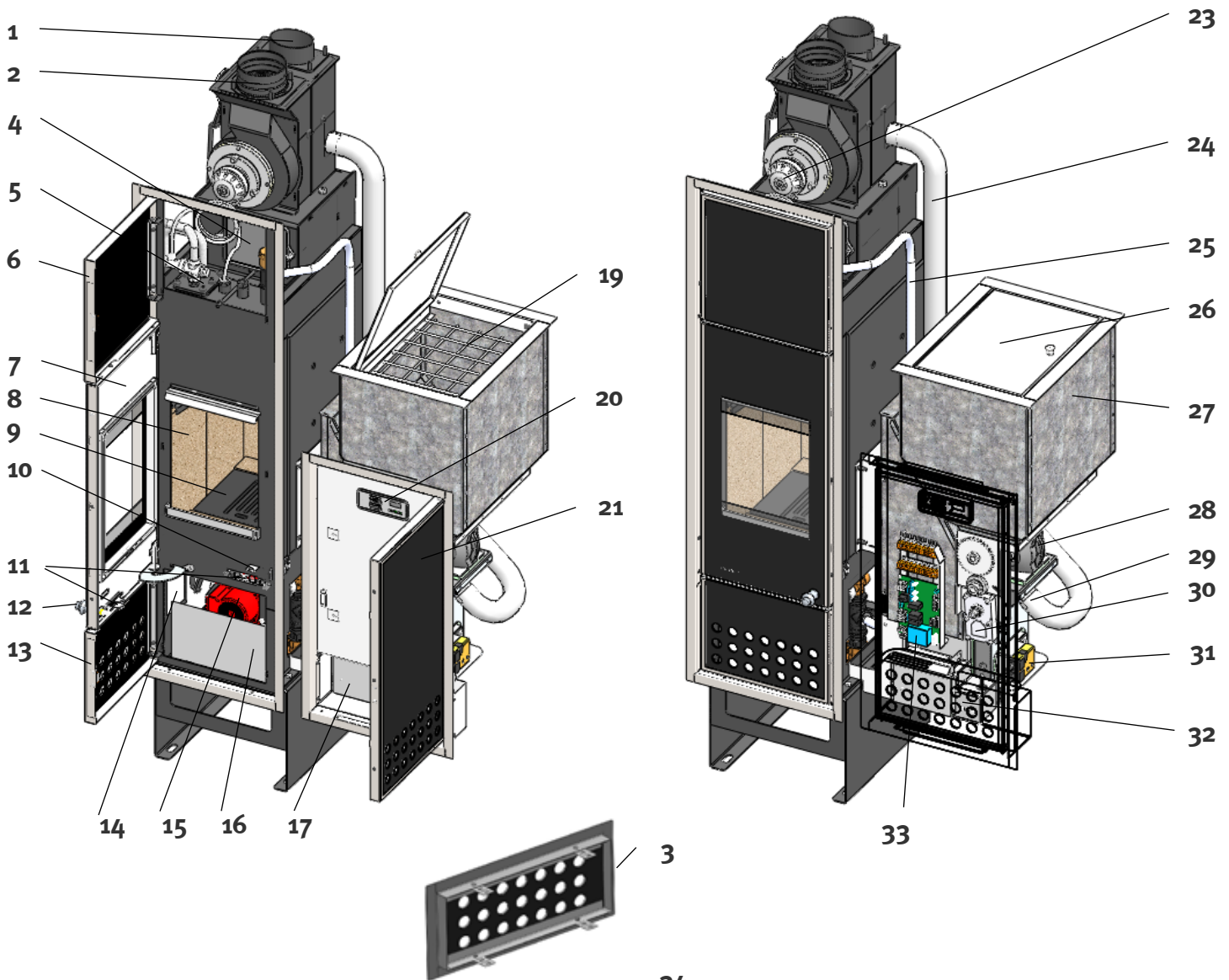


RISK OF BURNS!



FIRE HAZARD!

6. Design of the appliance / Dimensions



1	Combustion air inlet pipe 100 mm oval
2	Exhaust gas pipe connection dia. 120 mm
3	Inspection door (with convection air outlets)
4	Cover cleaning opening
5	Thermal discharge safety valve
6	Upper maintenance door
7	Firebox door
8	Combustion chamber lining
9	Cast-iron grate, ash drawer underneath
10	Combustion air slider (primary air)
11	Door lock
12	Door handle (self-locking)
13	Lower maintenance door (with convection air outlets)
14	Nameplate
15	Pump assembly with return flow temperature boost
16	Screen
17	Pellet burner ash drawer
19	Hopper safety guard
20	Pellet burner control panel

21	Pellet burner door
23	Induced draught fan
24	Combustion air supply, pellet burner
25	Flow connection line
26	Hopper cover
27	Hopper
28	Rotary valve
29	Supply air connection pellet burner
30	Conveying system motor
31	Grate motor
32	Safety temperature limiter "STB"

33	Pellet burner main circuit board
34	Connections of thermal discharge safety valves
35	Servo-motor of combustion air throttle valve
36	Circulating pump
37	Heating connection (return flow)
38	Flow connection line
39	Safety valve with manometer
40	Mixing valve for return flow temperature boost
41	Heating connection (flow)

7. Modes of operation

This appliance can be operated in two different modes: operation with pellets or with firewood.

Operation with pellets

The appliance is controlled with the use of preset control variables.

In addition to heating the room where the appliance is located, hot water is generated by the integrated heating element. The heat is transferred to the heating system (reservoir, heating circuit, etc.).

Operation with firewood

In addition to the operation with pellets, the appliance can also be conventionally operated with firewood. The basic functions of heating up and operating the appliance are comparable to those of a normal wood burning stove.

It is also possible to ignite the firewood automatically by means of the pellet burner. Just load the combustion chamber with firewood and turn on the pellet burner.

If firewood is added to the combustion chamber while the appliance is running on pellets, it recognises this and changes automatically to OPERATION WITH FIREWOOD.



- Please note that operation of the boiler with the controller is only possible during operation with pellets.
- When burning firewood, the appliance must also be connected to the mains electricity supply to avoid damage to appliance components.

8. Functional description

The wood-burning appliance AqualInsert with integrated pellet burner was specifically designed for burning firewood (logs) or wood pellets.

The appliance can be used for heating the room where the appliance is installed. In addition, hot water is generated by means of the integrated heating element. The heat is transferred to the heating system by this means – if the appliance is used in combination with a solar energy system the heat will be transferred to a storage tank.

The stove body, viewing window, etc. give off radiant heat.

For heating, switch the appliance on; it regulates according to the temperature setting of the boiler when operating with pellets.

The temperature setpoint of the boiler can be influenced by the setting SUMMER MODE /WINTER MODE. In addition, the output of the appliance can be affected by the setting of the output levels. Once the boiler has reached the set temperature, the selected output level applies an upper limit to the control range of the pellet burner.

Switching the appliance on and off can be automated by the integrated programmer with a weekly programme or by means of a remote control unit in the room.

On start-up, whether automated or manual, the comb grate is cleaned automatically. The wood pellets are then transported to the combustion chamber via a screw feeder (with integrated rotary valve to inhibit burn back) and electrically ignited. The screw feed automatically feeds more pellets. The oxygen required for combustion is supplied to the combustion chamber in a controlled flow.

The combustion gases completely burn out in the combustion chamber of the pellet module and in the downstream combustion chamber for the firewood. The heat is emitted via the surface of the heat exchanger and the external surfaces of the appliance. An induced draught fan, corresponding to the amount of fuel and the combustion air required, provides a stable negative pressure in the appliance and ensures the safe evacuation of the flue gases to the chimney.

9. Fuels



Figure 1



Figure 2

Suitable fuels

WOOD PELLETS

The wood pellets used (Figure 1) must comply with Austrian standard ÖNORM M7135 or DIN Plus. Diameter 6 mm, length max. 30 mm.

Storage of wood pellets

Pellets are supplied with a maximum moisture content of 10 % (standards-compliant). During transport and when storing pellets, they must be kept dry. The storage location must be dry and free from contamination.

FIREWOOD (LOGS)

Firewood (Figure 2) should have a moisture content of approx. 20 % of the dry weight, a length of 1/3 m and should be split into small pieces. This way, the firewood quickly catches fire and produces a higher heat output than the same volume of large logs. Spruce wood, fir wood or alder wood should be allowed to dry out for at least 2 years, hardwood as long as 3 years (under a roofed shelter).

The effect of the water content in wood on the calorific value is shown in Table 1:

Storage of wood	water content %	calorific value kWh/kg
green wood	50	~2,3
stored for one winter	40	~2,7
stored for one summer	18-25	~3,4
air dried	15-20	~4,2

Table 1

Unsuitable fuels

Moist wood, bark waste, sawdust, fine wood chips, brushwood, wood-wool, wood shavings. Use paper only in small amounts to kindle a fire. The burning of such fuels results in significant pollutant emissions, large amounts of ash, and the heat output is comparatively low.

Prohibited fuels

Surface-treated wood (veneered, painted, impregnated, etc.), particle board, all types of household waste (packaging waste), plastic materials, newspapers, rubber, leather, textiles, etc.

Burning these materials is harmful to the environment and is therefore prohibi-



Failure to observe these instructions will invalidate any warranty!

ted by law. Furthermore, damage to the appliance and the chimney can occur.

Furthermore the combustion of coal and similar fuels is not permitted. The appliance has not been tested for use with these fuels; therefore damage to the appliance cannot be ruled out and is not covered by warranty.

10. Chimney / Flue pipe connection



The appliance must not be connected to a shared flue system

- For safe operation of the appliance an effective chimney height of at least 5 m (from the flue connection to the chimney outlet) is recommended.
- For further information as regards the necessary minimum discharge pressure see the technical details on page 30, in our brochures and on the nameplate.
- Please have the minimum discharge pressure checked by the local chimney sweep!

Flue pipe connection

The flue pipe is the connection between the insert stove and the chimney. When installing the flue, please note the following instructions:

- The AQUA INSERT requires a 120 mm flue pipe.
- The connection between the insert stove and the chimney must be strong and leak-proof. In particular the connection to the masonry of the chimney must be durable and tight.
- Make sure that the connecting piece can be cleaned (cleaning opening).
- The diameter of the flue pipe must not decrease towards the chimney.

- The flue pipe must not project into the chimney.
- Vertically positioned flue pipes must not exceed a length of 125 cm if they are not insulated.
- Horizontal pipe sections must not exceed a length of 100 cm.
- The flue pipe must not descend towards the chimney, but must incline slightly upward.



The exhaust system must be inspected by the local qualified chimney sweep before starting to use the appliance.

Chimney flue connection independent of indoor air

(room-sealed appliance)

If the appliance is operated independently of indoor air, the following instructions are also to be observed:

- The chimney flue must be sealed at the pipe connection by means of a temperature resistant sealant.
- The flue pipe must have a gas-proof connection to the chimney and must be sealed by means of an appropriate rope seal and a temperature resistant sealant (e.g. heat-resistant silicone).



The total length of the connecting pipe between appliance and chimney should not exceed 1.5 m.

11. Air supply for combustion WITH dependence on indoor air (open-flued appliance)

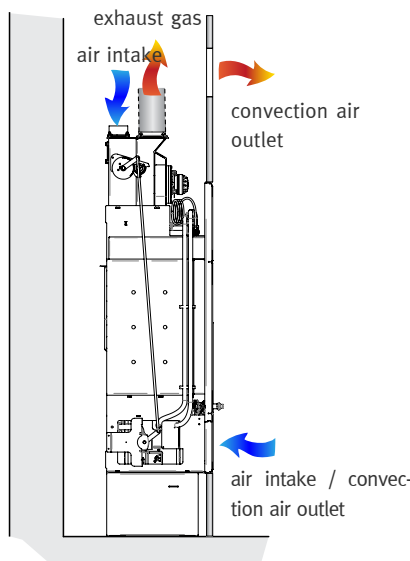


Figure 3

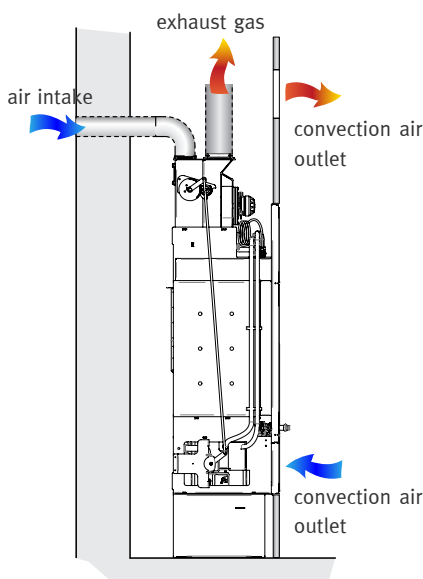


Figure 4

Air supply for combustion via the room where the appliance is located

The air required for combustion is drawn from the room where the appliance is located. The room must be periodically ventilated, especially in well sealed buildings.

Therefore provide sufficient changes of air in the room where the appliance is located. For rooms exceeding a volume of 50 m³, we recommend exchanging 1.5 times the volume of air per hour. For smaller rooms the rate of air exchange should be increased.

If there are additional heating appliances in the same room, make sure that the air inlets can supply sufficient air for combustion for the operation of all appliances.

Only if certain conditions are fulfilled it is permissible to operate open-flued fireplaces in combination with ventilation systems etc. For further information seek the advice of the manufacturer of your ventilation system.



Negative pressures in the room where the appliance is located (e.g. through ventilation systems, extractor hoods, etc.) may impair the functioning of the fireplace and its safety system and are therefore not permissible.

Please consult the local qualified chimney sweep and observe the local fire protection laws as well as the standards DIN 18896 (technical standards for the installation and the operation of fireplaces for solid fuels).



Operate extractor hoods only with re-circulated air operation!

With ducted extractor hoods, an adequate supply of air must be ensured by means of separate safety equipment (e.g. contact switches on the windows, negative-pressure monitoring).

Air supply for combustion via the room where the appliance is located (Figure 3)

- The air for combustion is pre-heated.
- It is necessary to ventilate the room at regular intervals or to provide a permanent opening for ventilation to the outside.

Outdoor air supply for combustion (Figure 4)

- The air for combustion is only slightly pre-heated!
- Max. length 4 m with 3 bends.

12. Air supply for combustion NOT dependent on indoor (room-sealed appliance)

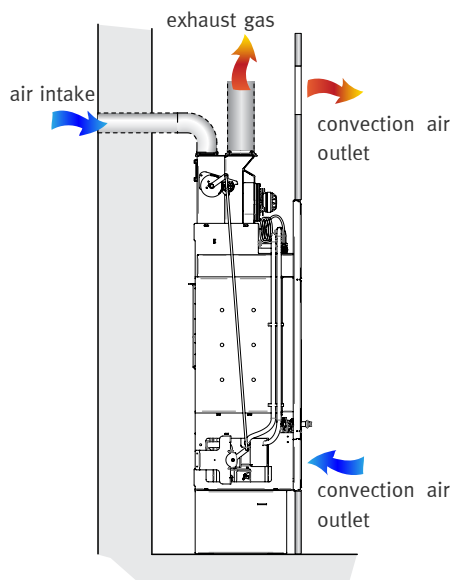


Figure 5

The air for combustion is entirely supplied to the combustion chamber via a supply air pipe of 100 mm diameter (to be provided by the customer).

The oval-shaped pipe connection for the combustion air system is located on the cover plate behind the flue gas connection.

The tight pipe connections are run directly to the outside or they are connected to an appropriate air-flue gas system. It is also feasible to extract the air from a room that is independently supplied with outdoor air (e.g. cellar).

For the supply air duct provided by the customer, leak-proof pipes (e.g. steel pipes to DIN 24145 with flexible, non-combustible aluminium hose at the pipe connections) with at least 100 mm diameter, max. 3 bends and a permissible total length of 4 m are to be used.

For greater lengths and more than 3 bends it is necessary to do a calculation.

To facilitate the inspection and cleaning of the air supply duct, appropriate inspection doors must be provided.

The entire supply air duct must be air-tight. With special pipe systems a calculation of the cross sectional area of the chimney according to EN 13384-1 is required, taking into consideration the air supply duct.

We recommend setting the ventilation system to a maximum negative pressure of 4 Pascal.

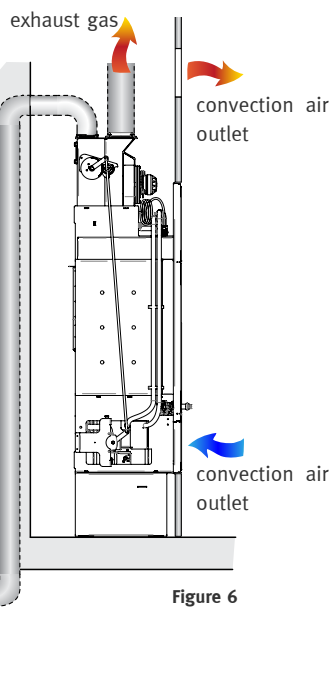


Figure 6



Please note!

- A prerequisite for the connection of fireplaces used in combination with domestic ventilation systems is that the approval of the local qualified chimney sweep is obtained!
- It is not permitted to install cut-off devices in the supply air duct (dampers, sliders, etc.). To prevent air from permanently flowing through the appliance when it is not in use, close the sliding door at the appliance.
- Make sure that the outdoor air inlet is protected against blockage by means of a protective grating. We recommend a mesh size of 10 mm.
- For the supply air duct to the combustion air connecting piece it is best to use a non-combustible, flexible aluminium hose.
- The supply air duct must be insulated to avoid condensation and must be protected against wind.
- The air duct must be at least 100 mm in diameter. If rectangular pipes are employed, an appropriate cross section must be maintained.
- According to the regulations for chimney sweeping and inspection ventilation systems must be checked for blockages once a year by the local qualified chimney sweep. To facilitate this, appropriate inspection doors should be provided. Please consult your local qualified chimney sweep regarding this matter.
- Negative pressures in the room where the appliance is located are not permissible. Therefore the applicable technical guidelines for the use of appliances in combination with systems for ventilation and air conditioning (e.g. ventilation systems, extractor hoods, pneumatic conveyor systems, etc.) are to be adhered to.
- According to the assessment criteria of the DIBT in Berlin and the DIN 18160 standards, fireplaces with an external supply of air for combustion are only allowed if only one appliance is connected to the chimney.

Outdoor air supply for combustion (Figure 5)

- The air for combustion is only slightly pre-heated!
- Max. length 4 m with 3 bends.

Air supply for combustion via pipe line through a basement room (Figure 6)

- The air for combustion is pre-heated.
- The air supply in the basement room can be easily implemented.
- Max. length 4 m with 3 bends.

Air supply for combustion through a basement (Figure 7)

- The air for combustion is pre-heated.
- The basement room must be excluded from the ventilation system of the dwelling and must be open to the outside.
- Avoid accumulation of dust and moisture.

13. Safety clearances

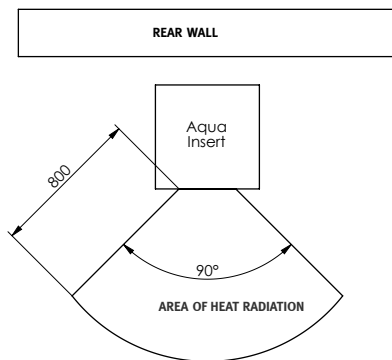


Figure 8

The following safety clearances to combustible items (movable wooden walls, furniture, furnishing fabric, etc.) must be maintained:

Minimum distance flue pipe to ceiling:	240 mm
Minimum cross section for convection air:	103 cm ² (if the convection air outlet is provided by the customer)
Minimum clearance appliance body to combustible materials rear and sides:	150 mm
Clearance between combustible materials and convection air outlets:	150 mm

Within the area of heat radiation (Figure 8), the minimum clearance of 800 mm from the front of the combustion chamber opening to combustible components must be maintained.

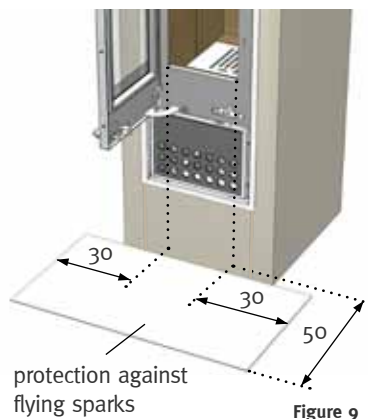


Figure 9

Floor pad as a protection against flying sparks

With combustible floors (timber flooring, synthetic materials, fitted carpet, etc.), the use of a floor pad made of safety glass or similar non-combustible materials is recommended.

According to fire protection laws, the minimum size (measurements in cm) for this pad as shown in Figure 9 must be observed.

14. External cladding – to be provided by the customer

The minimum wall thickness of the external cladding (to be provided by the customer) of the Aqua Insert+P must be 20 mm. It must consist of standard, non-combustible insulation material such as for instance Ytong.

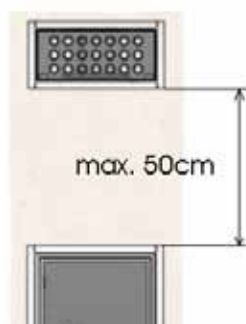


Figure 10



Under no circumstances does Lohberger assume liability for the installation of the appliance. The HVAC installer conducting the inspections for fire safety shall bear the responsibility.

Convection air outlet

The convection air outlets must be designed in such a way that they cannot become blocked. A blockage can lead to excessive heat build-up and as a consequence the appliance will overheat.



The supplied door for the convection air outlet must not be installed more than 50 cm above the top edge of the appliance (measurement at the top of the front of the appliance) so that a safe heat output through convection can be ensured (Figure 10).

15. Connection of the heating system



The connection to the heating appliance as well as the start-up may only be performed by a certified HVAC installer.



Provide a drain cock in the bottom area of the water circulation.

The boiler is suitable and permissible as a heat generating device for hot-water heating systems with a flow temperature of up to 95° C and a maximum allowable working pressure of 3 bar.

The insert stove must be installed following the instructions of this operating manual and in conformance with the applicable national and European standards as well as the regional regulations.

Further points to be observed: _

- Heating room guidelines
- State building regulations
- Local building regulations
- Industrial regulations and local fire protection laws
- Environmental laws
- Regulations of the local power supply company.

Upon completion of the connection work a test run must be carried out during which all control and safety devices are adjusted and checked for correct functioning.

Heat output to water

The heat requirement during operation must exceed 1,6 kW. If the demand or heat supplied is lower the built-in safety devices would be activated and/or the appliance would be shut down.

Return flow temperature boost

Operating temperatures that are too low (flow and return flow temperatures that are too low) will reduce the service life of the boiler significantly.



For this reason a return flow temperature boost with safety valve is pre-installed in the appliance.

Thermal discharge safety valve

The heat exchanger serves to protect the boiler from overheating when the pump is stationary and must not be used to provide domestic hot water. The safety mechanisms must still be accessible after the installation. The drain must be visible for checking the thermal discharge safety valve for proper functioning, therefore use the drain funnel.

At least once a year the thermal safety valve must be checked for correct operation. To do this, press the red cap against the valve and water must flow into the drain funnel. Should the thermal discharge safety valve drip, the seal and valve seat must be cleaned. The calcification state of the safety devices must also be checked at least once a year.



Use the built-in thermal discharge safety valve WATTS STS 20 according to DIN 3440 or DIN EN 14597. Trigger point 95°C, water flow rate at least 2,000 kg/h. Maintain the sensor length of 140 mm in compliance with the length of immersion sleeves of other types.



The clearance of the supply and discharge safety valve of the safety heat exchanger must not be less than its nominal connecting width. There must be no manual shut-off in the supply line and the drain line must be free of obstructions.



For further details as regards connecting the heating system please refer to the enclosed installation instructions.

16. Electrical connection



- Before performing any work on the appliance, the appliance must be disconnected from the mains supply (Emergency-STOP).
- Electrical connection work on the appliance must be performed by certified specialists according to the applicable technical rules, in particular the VDE guidelines (German Electrical Engineering Association) and the ÖVE guidelines (Austrian Electrical Engineering Association). We do not assume liability for damage to the appliance resulting from improper connection work; in such a case the warranty becomes null and void.
- All electric connecting cables from and to the appliance must be kept away from hot surfaces of the appliance and of the flue pipe. Do not lay the cable over sharp edges.

- The appliance is designed to operate only from a 230 V AC/ 50 Hz supply. Voltage fluctuations of 15 % to +10 % are permissible.



If possible connect the supplied power cord to the mains supply prior to installing the appliance.

- The connection is done with a 3-pole power cord (supplied with the appliance).
- A protective earth conductor is mandatory.
- When connecting the appliance by means of a plug to a socket, pay attention to the appropriate polarity (if necessary use a mains plug with anti-rotation protection) because the appliance must be connected with the correct phase sequence.
- The main fuse is a built-in glass cartridge fuse 5x20 2.5 AT with ceramic body. The fuse is located on the main board at the front of the appliance (inside).
- An emergency STOP switch or an individual safety device must be installed into the main distribution (for maintenance work, etc.).



We strongly recommend installing a smoke or fire detector that interrupts the power supply of the appliance in an emergency.

17. Requirements for the room where the appliance is situated

Load-bearing capacity of the floor

Prior to installing the appliance, make sure that the substructure of the floor is suitable for the weight of the appliance. Ensure a level and vibration-free positioning of the appliance.

Room temperature and ambient temperature / humidity

The appliance can be operated in dwellings with normal air humidity and room temperatures of + 5 °C to + 20 °C.

For room temperatures below 5°C, the water circuit must have an appropriate anti-freeze.

The appliance is not protected against water spray and must not be installed in wet rooms.

Accessories supplied by the manufacturer

To ensure a safe operation of the appliance, it comes with protective gloves, a grate lifter and a cleaning brush.

Closing the heating door

The door of the AqualInsert is self-closing and self-locking. To open the heating door, press the integrated release button fully while pulling on the door handle. When closing the heating door make sure that it engages with an audible click. Check: It must not be possible to open the door simply by pulling on the door handle.

Adjustment of the air supply

The air supply required for combustion, which is taken from the bottom through the grate into the combustion chamber, is adjusted by using the air slider in the front panel (Figure 11). This enables the required temperature in the combustion chamber to be reached faster during the initial heating-up phase.

Position 0:

The slider is closed, no primary air is supplied.

Position 1:

The slider is opened, maximum supply of air, especially necessary during the heating-up phase.

The supply of secondary air (combustion air flowing from the top, over the fuel) results in combustion that is matched to the fuel being used, resulting in low-pollution emissions. The secondary air intake cannot be adjusted and is pre-set for optimal combustion at the rated heat output.

Air wash system

The air wash system is very important both for the cleanness of the viewing window and for providing secondary air that gives low-pollution combustion. The air “washes down” across the glass front, flowing towards the combustion chamber where it contributes to the combustion. This gives the best possible cleanness of the window.

Please note the following factors with regard to a clean window:

1. Optimum chimney draught

For the air supply the chimney draught and the length of the supply line play a decisive role. Certain weather conditions, especially between seasons, can have a detrimental impact on the chimney draught.

2. Dry, suitable fuel

Use only dry wood (residual moisture max. 10-15 %). Resinous wood has a negative effect on the cleanness of the window. Do not burn painted, impregnated or other similarly treated wood. Do not burn bark, particle board or other waste.

3. Correct operation

Remove ash at regular intervals, however, at the latest when the ash heap has reached the air outlets in the ash pan. Only add the amount of fuel that is necessary to generate the required heat.

4. Correct air supply setting

Fully open the combustion air supply.

If dirt still forms on the glass, it can be removed with a special glass cleaner for chimney and oven windows when the appliance has cooled down.

For further details see MAINTENANCE AND CARE.

Adjustment of the temperature valve

The temperature valve with bleed-off valve can be integrated into a system with a reservoir. Once the boiler circuit has reached the opening temperature of 55°C, the output of the pump can be used for filling the reservoir (Fig. 12).

If the temperature valve is integrated into a system with a distributor, the pump applies a positive pressure to the entire system. If the bleed-off valve of the temperature valve is open, this pressure can be released via the valve. By doing so an unintended incorrect circulation can be prevented which could result for instance in sending water into the domestic hot water storage tank (Figure 13).

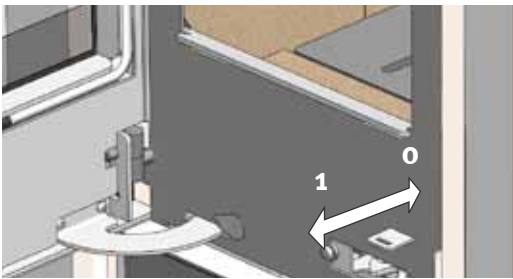


Figure 11

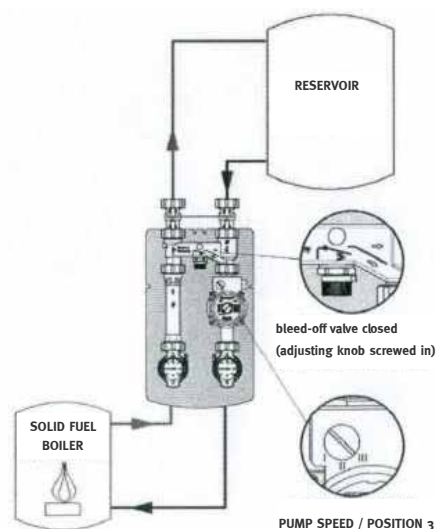


Figure 12

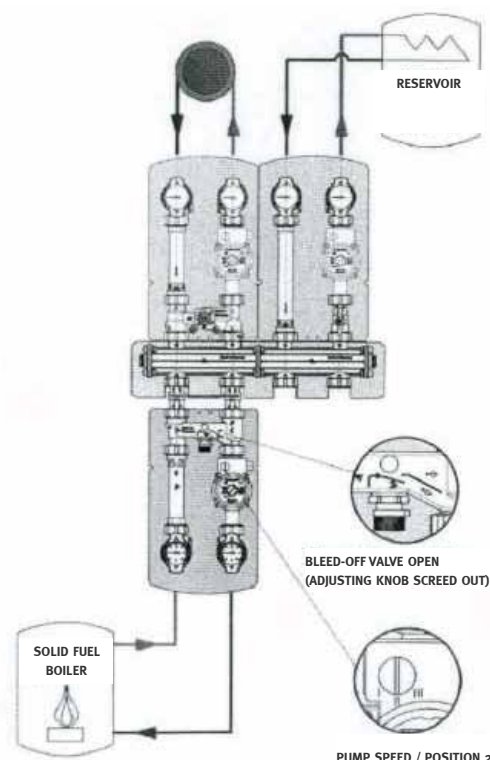


Figure 13

19. Start-up



Warning

Before operating the appliance with logs, check the fill state of the reservoir. When the reservoir is full the heat output to the water cannot be dissipated or can only be dissipated for a short time. This can lead to malfunctioning or the thermal discharge safety valve may be triggered.

After completion of the assembly and connecting work and prior to the first start-up, a few actions are still required:

- Open the door of the combustion chamber and remove appliance accessories and transportation safety devices.
- Before each start-up, make sure that it is ready for use (water level, water pressure, temperature, controls, safety devices etc.)

After you have familiarised yourself with the operating procedures for the stove, the first start-up can begin.

Heating the appliance for the first time

The outer finish of the AqualInsert+P is high-quality, air-drying lacquer which gives off virtually no fumes or odour on first use if it is first allowed to cure sufficiently (at room temperature). If the appliance is used before then, it can produce smoke or odour for a short time. Please provide good ventilation for the room where the appliance is located.

Heating up

- Open firebox door and put the primary air slider in position 1
- Place 2-3 small pieces of firewood on the grate
- Spread wood wool or newspaper over them and place 2 pieces of split logs on top, light the fire and then place one piece of firewood centrally on top
- Close the firebox door and let the wood burn vigorously.
- Add more fuel
- After the heating up phase is completed, add more fuel according to Table 2.
- Adjust the primary air depending on the type of fuel and the heating demand.



To prevent the escape of flue gases, keep the door of the combustion chamber closed at all times except when lighting a fire, re-fuelling or removing ashes



Do not throw the pieces of wood into the combustion chamber as this may cause damage to the firebox plates.

Adding Fuel

When adding fuel we recommend short intervals (every 40 – 50 minutes) and small amounts. This way the rated heat output is reached with low pollutant emissions and a good level of efficiency.

Air supply settings

Table 2 shows the recommended settings for the air supply (after the operating temperature has been reached). The indicated values for the settings are approximate values. The setting of the air slider that suits the heating requirements of the room is established by experimenting.

Guideline values for the fuel quantity and burning time

The following table 3 shows the recommended amount of fuel to be added for the rated heat output. If this amount is exceeded, overheating and consequent damage can result.

Heating

When only embers are left on the grate, new fuel should be added evenly over the whole grate. To do so, spread the embers evenly over the grate and then more fuel can be placed on top.

Heating in between seasons

When outdoor temperatures are above 15°C, it may occur that due to low chimney draught the fire does not burn very well. This will result in an increased build-up of soot in the flue passages of the appliance and in the chimney.

To reduce the build-up of soot when heating in between seasons, increase the primary air supply, poke the fire more often and add fuel more frequently (smaller pieces of wood).

Type of fuel	Rated load - Primary air
Spruce wood, air-dried	1 (fully open)
Beech wood, air-dried	1 (fully open)

Table 2

Adding of fuel	Burn-up time	Heat output
2-3 pieces of wood, approx. 2.4 kg	approx. 60 min.	Rated heat output

Table 3

20. Operation of the pellet burner / Settings

Display (illuminated)

Display options top level:
Appliance status
Clock time
Operating status
Output level

Button "UP"

To select the desired menu item in all sub-levels
To activate the key lock (only with activated key lock function) simultaneously press the buttons UP and DOWN in the top level
To switch on the functions in the adjustment levels
To increase values in the adjustment levels

Button „OK“

To enter all sub-levels of the menu, starting at the top level.
To confirm the selected sub-levels of the menu.
To confirm the set values and to switch from one adjustment point to the next in the adjustment levels
To acknowledge error messages by pressing and holding the button (approx. 2 seconds)

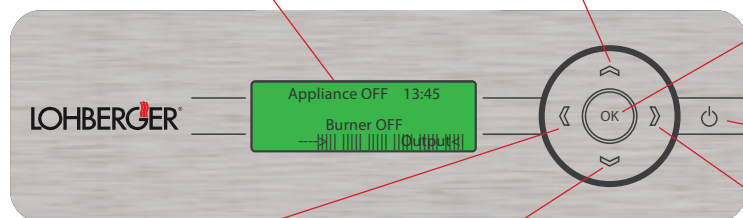


Figure 14

Button "LEFT"

To reduce the output in the top level.
To switch from one adjustment point to the previous in the adjustment levels
Go back one menu level.

Button „DOWN“

To select the desired menu item in all sub-levels
To activate the key lock (only with activated key lock function) by simultaneously pressing the buttons UP and DOWN in the top level.
To switch off functions in the adjustment levels.
To reduce the values in the adjustment levels

Button „RIGHT“

To increase output in the top level.
To switch from one adjustment point to the next in all adjustment levels.

21. Menu - Top level

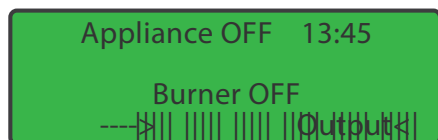


Figure 15

In the top level of the menu (Figure 15) the current appliance status is shown and the basic controls such as switching the appliance on/off, setting the heat output and activating the key lock are available.


DISPLAYED INFORMATION

- Line 1** Current appliance status and current clock time
- Line 2** **Current operating status, information and error messages.**
- Line 3** Selected output level


ILLUMINATION

To switch on the display illumination, press any operating button; after approx. 30 seconds the illumination is turned off automatically.

To switch on the appliance

Press  once in the top level of the menu. The display "Appliance ON" appears as well as the operating status: burner start-up. The appliance turns on.

To switch off the appliance

Press  once in the top level of the menu. The display "Appliance OFF" appears as well as the operating status: burner OFF. The appliance shuts down.

Setting the heating output

To reduce the heating output, press  in the top level of the menu.

To increase the heating output, press  in the top level of the menu.

Adjustment range heating output:

3 - 10 for air heaters (P6)

5 - 10 for central heating appliances (P7, type designation -Z)

Key lock



The key lock prevents an unintentional modification of the appliance settings (e.g. when cleaning the control panel, caused by children, etc.) and can be switched on or off if required.

To switch on the key lock, press the buttons and at the same time.

To switch off the key lock, press the buttons and at the same time.



The key lock function is switched off when the appliance is delivered and can be activated in the menu SETTINGS --> See item Key lock (function).



If the key lock is activated, it is still active when power returns after a failure.

22. Settings Menu

```
-- Main menu --
>Settings <
Information
Factory level
```

Figure 16

To enter the main menu from the top level of the menu, press the **OK** button once.

Settings	Appliance settings
Information	Display /Information about the appliance and its components
Factory level	Detailed settings (service technician)

23. Settings Menu

```
-- Main menu --
>Settings <
Information
Factory level
```

Figure 17

```
-- Settings --
>Clock time/Date <|
Automatic operation|
Heating times |%
```

Figure 18

To access SETTINGS from the main menu, select the menu SETTINGS with or and press the **OK** button once (Figure 17).

Clock time /Date:	To set clock time and date
Automatic operation:	To change between manual operation and operation with adjustable heating times.
Heating times:	Adjustment of heating times
Key lock:	To turn the key lock on/off
Service code:	For use by the service technician to reset the cleaning / maintenance interval.
Reset:	To reset all settings made by the customer.

For central heating appliances:

Summer/Winter: To change from summer to winter mode.

```
-- Settings --
>Clock time/Date <|
Automatic operation|
Heating times |%
```

Figure 19

```
-- Clock time/Date --
>Clock time 13:46<
Date 04/09/2009
```

Figure 20

```
-- Clock time/Date --
Clock time 13:46
>Date 04/09/2009<
```

Figure 21

Clock time /Date






Select the menu **TIME/DATE** in the menu Settings with or and press the **OK** button once (Figure 19).

Select sub-menu Clock time by pressing the buttons or (Figure 20).

Press **OK** button once; the display Hour flashes
Adjust as required by pressing the buttons or
Press **OK** button once: the set value is stored and the display Minute flashes
Adjust by pressing the buttons or
Press **OK** button once; the set value is stored

Select sub-menu Date by pressing the buttons or (Figure 21)

Press **OK** button once; the display Day flashes
Adjust by pressing the buttons or

Press **OK** button once; the set value is stored, the display Month flashes
 Adjust by pressing the buttons  or 
 Press **OK** button once; the set value is stored and the display Year flashes
 Adjust by pressing the buttons  or 
 Press **OK** button once, the set value is stored
 Press  3 times to return to the top level of the menu.

```
-- Settings --
Clock time/Date |
>Automatic operation<|
Heating times  |%
```

Figure 22

```
--Automatic operation--
>Automatic operation OFF<
```

Figure 23

```
--Automatic operation--
>Automatic operation ON<
```

Figure 24

```
-- Settings --
Clock time/Date |
Automatic operation |
>Heating times  <|%
```

Figure 25

```
-- Heating times --
>MO< WE FR SU
TU TH SA ALL
```

Figure 26



```
--Heating times MO--
>T1 10:30 - 13:00<
T2 13:30 - 17:00
```

Figure 27



Automatic operation




Automatic operation determines whether the appliance is operated manually (standard setting OFF) or whether the internal clock is used for switching the appliance on and off.

Select the menu AUTOMATIC OPERATION in the menu Settings by pressing  or  (Figure 22)

Press the **OK** button once.

The setting can be changed by pressing the buttons  or  (Figure 23/24).

Press the button  3 times to return to the top level of the menu.



If the appliance is to be switched on or off by an external command, for instance from a room thermostat, a reservoir thermostat etc., AUTOMATIC OPERATION can be OFF or ON. However, if AUTOMATIC OPERATION is ON, an external command will only be acted on during the heating times that have been set.





For operation with a remote control unit the burner must be activated; in the top level of the menu "Appliance ON" must be displayed.



Heating times




Here you can select two heating periods for each individual weekday (MO, TU, WE ...). If the same times are wanted for the whole week, the two heating periods can be selected with ALL.


CAUTION: The setting ALL will replace all settings of the individual weekdays

Select the menu HEATING TIMES in the menu Settings by pressing the buttons  or  and press the **OK** button once (Figure 25).



Select weekday by pressing the buttons  or  and press **OK** button once (Figure 26).

Select heating period (T1 /T2) by pressing the buttons  or  (Figure 27)

Press **OK** button once; the display Turn-on time hour flashes


Adjust value by pressing the buttons  or 

Press the **OK** button once; the set value is stored, the display Turn-on time minute flashes

Adjust value by pressing the buttons  or 

Press **OK** button once; the set value is stored, the display Turn-off time hour flashes.

--> For making the settings see turn-on time..

Press button  four times to return to the top level of the menu.


```
-- Settings --
Automatic operation |%
Heating times      |
>Key lock          <|%
```

Figure 28

```
-- Key lock --
>Key lock OFF<
```

Figure 29

```
-- Key lock --
>Key lock ON<
```

Figure 30

```
-- Settings --
Heating times      |%
Key lock           |
>Service code      <|%
```

Figure 31

```
-- Service code --
>Service code ****<
```

Figure 32

```
-- Service code --
Code INCORRECT
```

Figure 33

```
-- Settings --
Key lock           |%
Service code       |
>Reset             <|%
```

Figure 34

```
-- Reset --
Reset with OK
```

Figure 35

Key lock (function)



To be able to use the key lock in the top level of the menu, the key lock function must be switched on.

Select the menu KEY LOCK in the menu Settings by pressing or and press the **OK** button once (Figure 28).

The key lock function can be switched on/off by pressing the buttons or (Figure 29/30).

Press button three times to return to the top level of the menu.

Now the key lock can be switched on/off in the top level of the menu by simultaneously pressing the buttons and .

Servicecode



To confirm cleaning work or maintenance work that has been performed on the appliance, a service code must be entered.

This will reset the relevant internal operating-time clock.

- Cleaning work is due after 250 operating hours and this will be indicated in the top level of the menu by the display “APPLIANCE CLEANING”; confirmation with cleaning code 1234
- Maintenance work is necessary after 2,000 operating hours and this will be shown in the top level of the menu by “APPLIANCE MAINTENANCE”, a confirmation by a service technician is required.

Select the menu SERVICE CODE in the menu Settings by pressing the buttons or and press **OK** button once (Figure 31).

Press **OK** button once, the first digit flashes

Adjust number by pressing the buttons or (Figure 32)

Press **OK** button once; the next digit flashes.

After entering the last digit, press the **OK** button once, if the correct service code has been entered, the message “Cleaning confirmed” or “Maintenance confirmed” appears in the text box.

Press the **OK** button once, the operating-time clock for the maintenance interval will be reset (resetting not visible).

If an incorrect service code was entered, the message Code INCORRECT appears in the text box (Figure 33).

Press **OK** button once, repeat the steps for the entry of the service code and enter the correct service code.

Press button twice to return to the top level of the menu.

Reset



In a reset all customer specific settings such as heating times etc. will be reset to the factory setting.

Select the menu RESET in the menu Settings by pressing the buttons or and press **OK** button once (Figure 34).

Press **OK** button once; a reset will be carried out (Figure 35).

The display returns to the menu Settings.

Press the button twice to return to the top level of the menu.

```
-- Settings --
Service code  |%
Reset        |
>Summer/Winter <|
```

Figure 36

```
-- Summer/Winter --
>Winter mode <
```

Figure 37

```
-- Summer/Winter --
>Summer mode <
```

Figure 38

Summer /Winter



To reduce the heat output in summer, the appliance can be adjusted from WINTER MODE to SUMMER MODE. This setting puts an upper limit on the adjustment range of the pellet burner.

- Boiler set-point temperature WINTER 75 °C
- Boiler set-point temperature SUMMER 65 °C

Select the menu SUMMER /WINTER in the menu Settings by pressing the buttons or and press the **OK** button once (Figure 36).

The setting can be changed by pressing the buttons or (Figure 37/38).

Press button three times to return to the top level of the menu.

24. Information menu

```
-- Main menu --
Settings
>Information <
Factory level
```

Figure 39

```
-- Information --
>Sensors <|
Actuators  |
System/SW-Version |%
```

Figure 40

```
-- Information --
>Sensors <|
Actuators  |
System/SW-Version |%
```

Figure 41

```
-- Sensors --
>Door contact ON <|
Grate contact ON |
Release ON |%
```

Figure 42

```
-- Sensors --
T Flame 38 |%
T Exhaust 26 |
>T Plug-in 24<|%
```

Figure 43

```
-- Sensors --
T Plug-in 24 |%
T Boiler 29 |
>Damper contact OFF<|
```

Figure 44

To enter the menu INFORMATION from the main menu, select the menu INFORMATION by pressing or and press the **OK** button once (Figure 39).

Sensors	Passive appliance components such as sensors, etc.
Actuators	Active appliance components such as motors, blowers, etc.
Appliance /SW Version	Display of the pre-set appliance type and of the installed software version
Operating hours	Display of the total of operating hours as well as how many operating hours remain until the next maintenance of the appliance is due.

Sensors

Select the menu SENSORS in the menu Information by pressing the button or and press the **OK** button once (Figure 41).

Paging through the menu items is possible by pressing the button or (Figure 41-44).

ON /OFF (OFF = Door open)
 ON /OFF (OFF = Grate open)
 ON /OFF (OFF = No external command)

Current flame temperature
 Current exhaust gas temperature
 Current discharge chute temperature

Current boiler temperature
 ON /OFF (OFF = Operation with firewood)

Press the button three times to return to the top level of the menu.

```
-- Information --
Sensors      |
>Actuators   <|
Appliance /SW Version |%
```

Figure 45

```
-- Actuators --
>Plug-in     OFF <|
Timing       0 |
Blower       OFF |%
```

Figure 46

```
-- Actuators --
Speed        0 |%
Grate motor   OFF |
>Ignition    OFF<|%
```

Figure 47

```
-- Actuators --
Ignition     OFF |%
Pump         OFF |
>Damper motor OFF<|
```

Figure 48

```
-- Information --
Sensors      |
Actuators     |
>Appliance /SW Version<|%
```

Figure 49

```
--Appliance /SW Version--
P7/LCP75B/LCP80N
SW VersionA  8.27
SW VersionD  1.6
```

Figure 50



```
-- Information --
Actuators     |%
Appliance /SW Version |
>Operating hours <|%
```



Figure 51

```
--Operating hours --
Total        0
Until maintenance 2000
```

Figure 52

Actuators

Select the menu ACTUATORS in the menu Information by pressing the button  or  and press the **OK** button once (Figure 45).

Paging through the menu items is possible by pressing the button  or  (Figure 46-48).

ON /OFF (OFF = screw feed off)

Current value

ON /OFF (OFF = Blower off)


Current value

ON /OFF (OFF = Motor off)

ON /OFF (OFF = Ignition off)

ON /OFF (OFF = Pump off)

ON /OFF (OFF = Motor off)

Press button  three times to return to the top level of the menu.


Appliance /SW Version

Select the menu APPLIANCE /SW VERSION in the menu Information by pressing the button  or  and press the **OK** button once (Figure 49).


Appliance type

Software version main circuit board

Software version control panel


Press the button  three times to return to the top level of the menu.

Operating hours

Select the menu OPERATING HOURS in the menu Information by pressing the button  or  and press the **OK** button once (Figure 51).

Display of operating hours

Display operating hours remaining until maintenance of the appliance is next due

Press button  three times to return to the top level of the menu.

25. First start-up of pellet burner



- Do not leave small children unattended in the immediate vicinity of the appliance: the equipment is not childproof.
- Prior to the first start-up check all connections of the appliance (chimney flue connection, power supply, etc.).
- The viewing window and door become very hot when the stove is in use (temperatures up to 300°C). Make sure that these parts are not touched when the appliance is in operation.
- Keep the firebox door closed at all times, even if the stove is not in use.
- Make sure that there are no objects in the combustion chamber and none in the pellet firebox.
- Only after the installation has been completed in compliance with the operating manual and installation instructions, is it permissible to load pellets into the hopper (at least 5 kg).

General note – Surfaces

Only high-quality air-drying paint is used which does not smell nor give off fumes when heated for the first time if it is allowed to dry completely (at room temperature). If the appliance is heated up before the finish has fully dried, an odour and fumes will be temporarily produced. Please ensure good ventilation of the room where the appliance is located.

Loading the hopper

Make sure that you use pellets approved to the Austrian Standards ÖNORM M7135/DIN 51731 – see imprint on the pellet bags or consult your pellet supplier. Open the lid of the hopper. To avoid raising dust, pour pellets slowly and not from too great a height. After feeding the pellets, close the lid and keep it closed during operation.

26. Heating operation with pellets


The regulation is determined by the specified boiler set-point temperature (75°C or 65°C, see setting SUMMER MODE /WINTER MODE).

If the set-point temperature of the boiler is exceeded by 10°C, the appliance shuts down automatically ⇒ display Burner OFF - and only switches on again when the boiler temperature is 3 °C below the set-point.



The appliance might resume operation automatically at any time, therefore please note the information in External Release /Remote control unit

Switching the appliance on


Press the button  once in the top level of the menu.


The display “Appliance ON” appears as well as the operating status burner start-up (Figure 53).

The appliance switches on.

Setting the heat output

Setting of the heating output in the top level of the menu (Figure 54)

Reduce heat output by pressing the button .

Increase heat output by pressing the button .

Adjustment range of heat output:

3 - 10 for air heaters (P6)

5 - 10 for central heating appliances (P7, type designation -Z)

If the heat output is not sufficient even when set at the highest level, the temperature can be increased by adding firewood.



For operation with a remote control unit the burner must be activated; in the top level of the menu “Appliance ON” must be displayed.

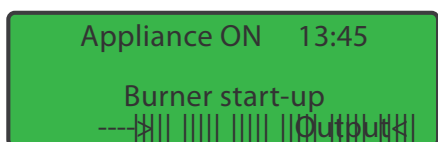


Figure 53

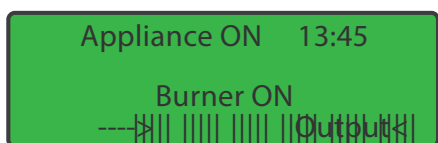


Figure 54

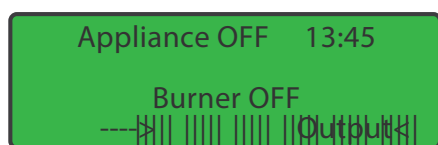


Figure 55

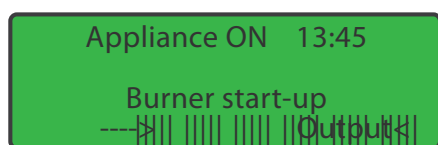


Figure 56

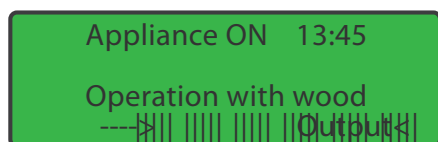


Figure 57

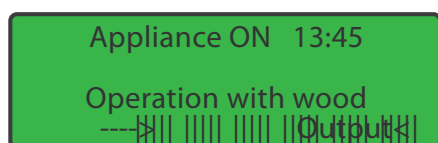


Figure 58

Manual lighting of firewood



- Open heater door, lay 2 to 3 small pieces of firewood or wood-shavings on the grate
- Place 2 to 3 small logs on top of them and light them.
- Close heater door and allow the fire to burn brightly

The display still shows Appliance OFF or Burner OFF (Figure 57).

Lighting of firewood by means of pellet burner



- Open heater door, place 2 or three small pieces of firewood (beech wood) onto the grate (approx. 2.4 kg)
- Close heater door.

Press the button  once in the top level of the menu.

The display Appliance ON and the operating status Burner start-up appear (Figure 58).

Because of the increased output caused by the burning of firewood, the pellet burner switches to operation with firewood; the display shows the operating status Operation with firewood (Figure 59).

If no further increase in the output is recognised while the stove is running on firewood, the appliance automatically returns to Operation with pellets if the appliance is ON.

If the appliance continues to burn firewood, the pellet burner shuts down automatically.

If no more firewood is added, the appliance automatically changes after a safety delay to heating operation with pellets according to the pre-set heating output.

Adding firewood during heating with pellets

If more firewood is loaded while the appliance is being heated with pellets, the appliance first switches to operation with firewood.

The display Appliance ON as well as the operating status Operation with firewood appears (Figure 60).



If the appliance is operated with a low heat output, the firewood may not be immediately recognised, which will delay the lighting of the firewood.

If the appliance continues to burn firewood, the pellet burner shuts down automatically. If no more firewood is added, the appliance automatically changes, after a safety delay, to heating with pellets with the pre-set heating output.



CAUTION: During operation with firewood, there is no automatic control of the output through the pellet stove control. Control of the output depends on the amount of fuel added. Only the heating circuit pump is switched on or off.

28. External Release / Remote control unit (to be provided by the customer)



The appliance can switch on automatically at any time.

Therefore we recommend installing a smoke or fire detector that makes a warning sound in an emergency and interrupts the power supply of the appliance.

It is also possible to switch the pellet burner on or off by means of a remote control unit.

The burner is released through a normally open contact on the main circuit board. Without a remote control unit this contact must be bridged (condition as supplied to the customer).

The remote control unit is connected to the main circuit board to replace the bridge. No additional software activation is necessary.

For operation with a remote control unit the burner needs to be activated, in the menu top level "Appliance ON" must appear. When the remote control unit switches on, the burner starts with the appropriate ignition programme, depending on the flame temperature. When the remote control unit switches off, the burner switches off automatically after a delay of 5 minutes and waits for the next command from the remote control unit.



- The appliance must be switched on (Appliance ON) and the desired heating output must be pre-set.
- If the remote control unit switches off, the burner continues to run for approx. 5 minutes



- Before starting the burner or operating the appliance with firewood, check the level in the reservoir.
- If the reservoir is full, the heat output to water cannot be dissipated or only be dissipated for a short time. This can lead to disturbances through the system constantly switching off in pellet operation and the thermal discharge safety valve may be triggered when the system runs on firewood.

29. Switching the appliance off

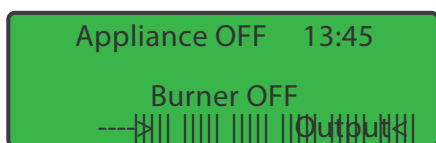


Figure 59

Press the button  once in the top level of the menu.

The display Appliance OFF and the operating status Burner OFF appear (Figure 59).

The appliance shuts down.

30. Maintenance /Cleaning display

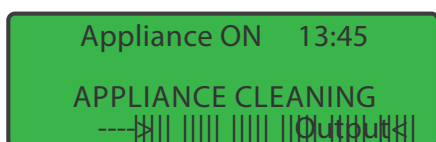


Figure 60

Display Cleaning

The display APPLIANCE CLEANING appears after 250 operating hours (Figure 60). After the cleaning work has been performed, the display is reset by using the service code CLEANING and timing restarts for the next cleaning. For details how to reset the service code, please refer to the service code item on page 19.

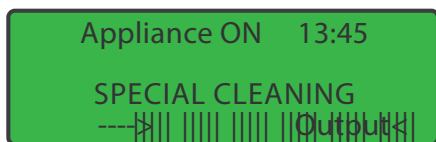


Figure 61

Display special cleaning

The display SPECIAL CLEANING appears after several fault states have occurred in succession, such as NO PELLETS, NO IGNITION OR LOADING DOOR OPEN (Figure 61).

This display indicates a possible problem caused by dust or dirt that has accumulated in the appliance. Remove deposits from the appliance, in particular from the pellet burner block, by means of the supplied cleaning brush. Then press and hold the **OK** button for two seconds to clear the displayed message.

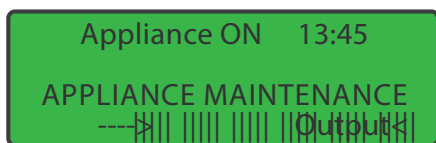


Figure 62

Display maintenance

The display APPLIANCE MAINTENANCE appears after 2000 operating hours. A full service of the appliance is then necessary (Figure 62).

The servicing must be carried out by a trained service technician. Please get in touch with your local dealer. This maintenance checks all installed components and ensures that they are working well. Once the maintenance work has been completed, the display will be reset by the service technician with the service code MAINTENANCE, and timing for the maintenance period restarts.



We offer you the option of an annual maintenance contract. If you wish to take advantage of this service, please do not hesitate to contact the customer service department of LOHBERGER®.

31. Maintenance / Cleaning



Allow the appliance to cool down before doing any cleaning work to avoid coming into contact with embers or hot components – RISK OF BURNS!



Have your fireplace inspected by a specialist (customer service, chimney sweep) at regular intervals.

Regular maintenance and care or cleaning of the appliance, the fuel gas ducts and the chimney are particularly important for the operational safety, efficiency and maintaining the value of the appliance.

A thorough cleaning should be performed after each heating period and after a long period of non-use (see Important instructions, page 4). When used frequently or when using poor-quality fuels, correspondingly more often.

- Remove the grate and brush it. Clear out clogged grate slits.
- Clean combustion chamber walls and flue gas ducts with the ash shovel or with the cleaning brush.
- Remove ash pan and empty it. Sweep or vacuum the ash pan enclosure.
- Use the cleaning brush to sweep the heating gas ducts accessible after removing the cleaning cover.
- Check the sealing cords of the firebox door and of the cleaning cover; replace them if required.
- Clear the secondary air vents at the back wall of the firebox.
- When reinstalling the various appliance components (grate, cleaning cover, ash pan) ensure they are correctly positioned and function as required and / or that there are no leaks.

Using the vacuum cleaner

Allow the appliance to cool down completely and only use a vacuum cleaner with an “Ash Box” accessory – FIRE HAZARD



The ash can still contain live embers: Dispose of the ash only into metal canisters!

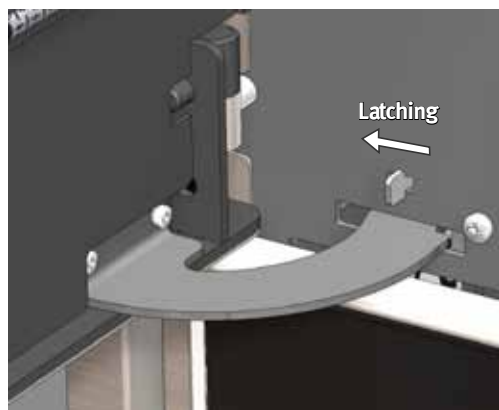


Figure 63

Cleaning of painted surfaces

Wipe painted surfaces with a damp cloth; do not use abrasive. Do not use solvent-based cleaning agents (e.g. glass cleaner etc.).

Cleaning glass viewing window of combustion chamber

To clean the glass viewing window use gentle cleaning agents (e.g. soapy water) and a soft cloth. Depending on the length of operation, the output of the appliance and the quality of the pellets, a light-brown to dark brown deposit can build up on the viewing window. This is a natural process when burning biomass and does not constitute a fault. To reduce the misting-up (even in case of continuous operation over several days), air “washes down” across the glass front (air wash system).

Latching the firebox door

For ease of cleaning the combustion chamber, the door can be latched. To do this, fully open the firebox door and push the small tab towards the door hinge (Figure 63).

Cleaning combustion chamber

Clean the combustion chamber by means of the supplied cleaning tool. Remove deposits from the pellet burner block and from the flame temperature sensor by means of the supplied cleaning brush (Figure 64).



The cleaning brush must be inserted as far as the grate of the pellet burner. Check: The handle of the cleaning brush should only protrude from the pellet burner block by a hand's breadth.

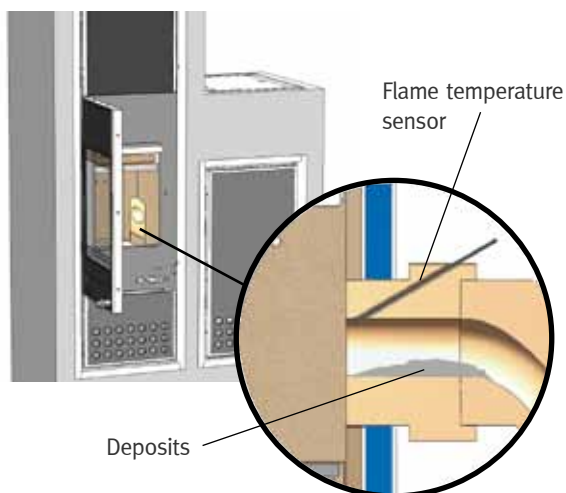


Figure 64

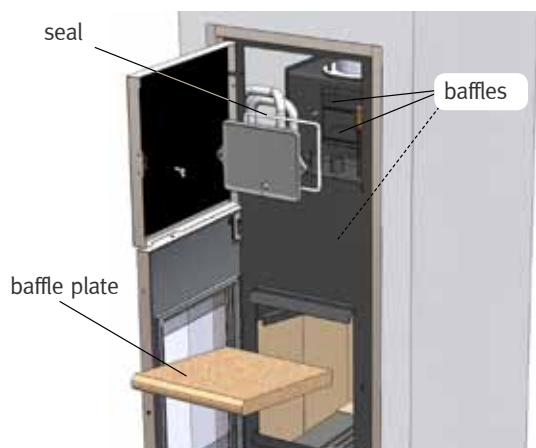


Figure 65

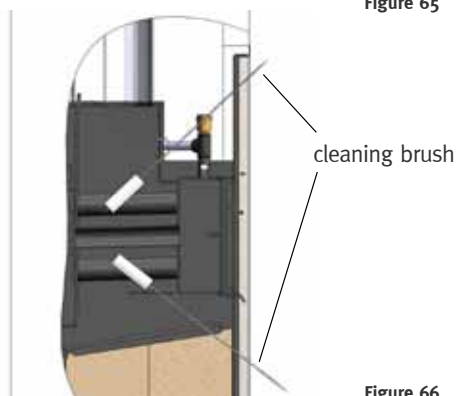


Figure 66

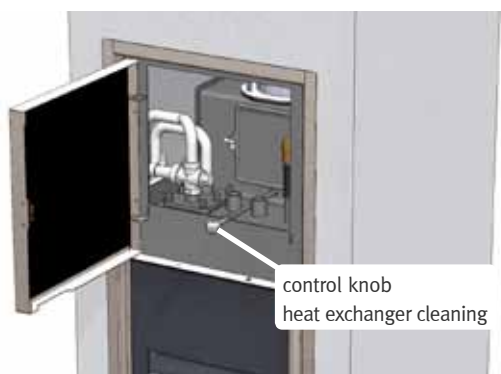


Figure 67

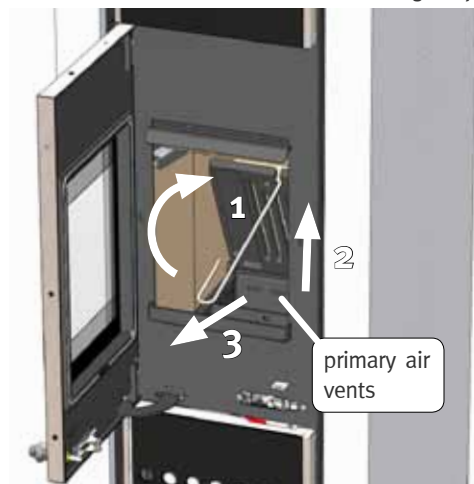


Figure 68

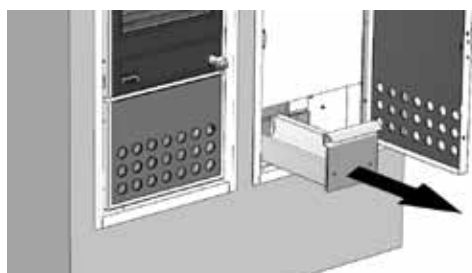


Figure 69

Cleaning the heat exchanger

Behind the upper maintenance door there is a cleaning aperture. The cover is attached to the body of the appliance by two wing nuts.

Remove the baffle as well as the baffle plates (3 pcs.) to clean the surfaces of the heat exchanger. Check the seal for damage and if necessary replace it before screwing on again (Figure 65)

Remove deposits from the surfaces of the heat exchanger as well as from the heat exchanger pipes using the supplied cleaning brush . (Figure 66)

Cleaning heat exchanger (optional equipment)

Easy cleaning of the heat exchanger tubes through built-in heat exchanger (Figure 67).



The heat exchanger cleaning which is available as optional equipment can also be fitted at a later time.

Combustion chamber ash pan



CAUTION: The ash drawer may be hot

Remember to empty the ash pan regularly and in good time (Figure 68).

To do this, swivel the grate using the supplied grate lifter (1).

Use the grate lifter to remove the ash pan towards the front (2+3) and empty it, and clean the ash chamber.



The pile of ash must not obstruct the primary air vents in the ash pan.

Pellet burner ash pan

Open the door of the pellet extension and pull out the ash drawer (Figure 69). Empty the ash drawer and clean the ash chamber.



CAUTION: The ash drawer may be hot

Grate

If the air slits are very clogged by slag, crusts or other combustion residue, completely remove the grate and clean it (Figure 67).

To do this, open the combustion chamber door and lift the grate with the grate lifter (1) and pull out towards the front.

32. Resetting safety temperature limiter

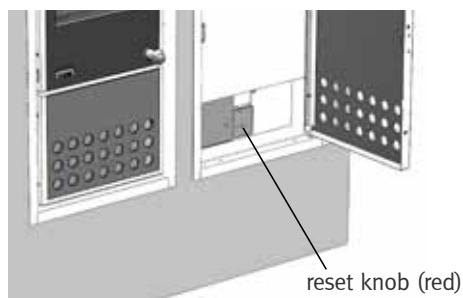


Figure 70

If the maximum permissible boiler temperature of 95°C is exceeded, the safety temperature limiter (STB) is triggered and the error indication STB TRIGGERED appears on the display. Once the appliance has cooled down, the limiter must be reset manually (Figure 70):

- Open door of the pellet extension.
- Unscrew the black protective cap and press the red reset knob.
- Clear the error status by pressing the **OK** button.

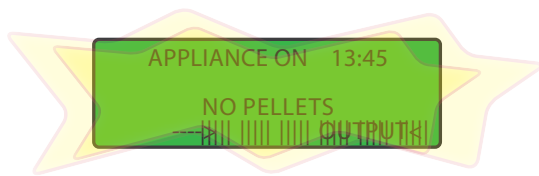
33. Troubleshooting



In the event of a fault (power failure, overload, etc.) turn the air regulator to position 0 and keep the combustion chamber door closed; do not add fuel. Open all shut-off devices in the heating system. If there is any damage or a fire hazard, leave the building immediately and call the fire brigade.

Problem / Fault	Possible cause	Solution
Smoke escaping during heating up or heating	Chimney still cold or stale air in the chimney.	Light ball of paper in the stove and allow it to burn out.
	The fuel used is too smoky, moist or of poor quality:	See FUELS on page 8.
	Heating gas flue or chimney excessively sooty or blocked:	As soon as possible, thoroughly clean the stove and the connecting ducts; have the chimney swept.
	Weather-induced, stale air in the chimney	See START-UP on page 15.
Temperature too low (stove fails to heat properly)	Incorrect setting of air supply (too low, not suitable for the fuel being used)	See AIR SUPPLY SETTING on page 15.
	Wrong, too damp or inferior fuel is being used:	See FUELS on page 8.
	Weather-induced, stale air in the chimney.	See START-UP on page 15.
	Appliance or chimney very sooty or blocked.	Thoroughly clean combustion chamber, ash chamber and heating gas ducts. Have chimney swept.
	Open cleaning cover opening (cover not screwed back on after last cleaning)	Screw cleaning cover back on.
Temperature too high (risk of overheating)	Incorrect setting of air supply (too low, not suitable for the fuel being used)	See AIR SUPPLY SETTING on page 15.
	Firebox door open, damaged seal or viewing glass in the door has come loose.	Close door immediately, check seals, screw the viewing glass into place.
	Incorrect fuel is being used.	See FUELS on page 8.
Side walls of the combustion chamber are sooty	Indicates incomplete combustion (wood too moist, combustion temperature too low)	See FUELS on page 8. See AIR SUPPLY SETTING on page 15. The amount of wood is possibly not sufficient, so the combustion chamber remains too cold.

34. Error messages / Remedy – Operation with pellets



If an error message appears, the display begins to flash.

Remedy the fault according to the following list of faults and then acknowledge the error message.

Press and hold the **OK** button (approx. 2 seconds) in the top level of the menu to acknowledge the error message.

Display	Identification of fault	Cause	Remedy / Solution
NO PELLETS	No pellets fed / hopper empty	Hopper empty	Add fuel.
		Grate dirty	Empty ash drawer (in operating state APPLIANCE OFF)
		Conveyor drive defective	Clean screw feed or call service technician
		Air regulator open	Close air regulator
		Insufficient supply of fresh air	Ensure continuous supply of fresh air
		Ash drawer full	Empty ash drawer (in operating state APPLIANCE OFF)
NO IGNITION	No ignition / No ignition after power failure	Heating door open	Close heating door
		Start-up flap open	Close start-up flap
		Ash drawer full	Empty ash drawer (in operating state APPLIANCE OFF)
		Flue outlet obstructed	Clean appliance
		Air regulator open	Close air regulator
		Insufficient supply of fresh air	Ensure continuous supply of fresh air
		Hopper empty	Refill fuel.
TEMPERATURE LIMITER HAS TRIGGERED	Overheating, the maximum permissible boiler temperature (95°C) was exceeded, safety temperature limiter (STB) has triggered	Power failure	Remedy the fault; allow the boiler to cool off and reset temperature limiter manually.
		Failure of heating circuit pump	
		Output of appliances (radiators) has been reduced (possibly thermostat valve)	Open the appliance, if it occurs more frequently, have its heat output checked by the HVAC installer
		Air in the boiler / heating system	Bleed air from the system.
CLEANING FAILURE	Failure of grate	Pellets jammed	Empty ash drawer (in operating state APPLIANCE OFF)
			CAUTION: if the ash drawer cannot be pulled out, the grate may still be open because of jammed pellets;
			Throw 3-4 pcs. of 'Zündis' (product which helps to light a fire) from above into the flue and switch on pellet burner to burn off residues from the grate
OVERHEATED APPLIANCE	Warning signal overheating	Too much fuel loaded	Load fuel according to table (page 15)
		High level of chimney draught	Check chimney draught (chimney sweep, HVAC installer)
FLAME SENSOR KS	Flame sensor - short circuit		Call service technician
FLAME SENSOR UB	Flame temperature sensor – fault	Loose fixing bolt on terminal strip	Tighten bolts on terminal strip
		Cable faulty	Call service technician
		Flame temperature sensor faulty	Call service technician
EXHAUST GAS SENSOR KS	Exhaust gas sensor – short circuit		Call service technician
EXHAUST GAS SENSOR UB	Exhaust gas sensor – fault	Cause – see flame temperature sensor UB	Solution see flame temperature sensor UB
F11	Ignition program after power failure	Power failure	
PLUG-IN TEMPERATURE SENSOR KS	Discharge chute sensor short circuit		Call service technician

PLUG-IN TEMPERATURE SENSOR UB	Discharge chute faulty	Call service technician
LOADING DOOR OPEN	Heating door or start-up flap open	Close heating door or start-up flap
BOILER SENSOR KS*	Boiler sensor – short circuit	Call service technician
BOILER SENSOR UB*	Boiler sensor – fault	Cause see flame sensor UB Remedy see flame sensor UB
BOILER OVERHEATED	Overheating, the preset boiler temperature limit (90°C) was exceeded.	Cause see Temperature limiter has triggered Once the boiler temperature has fallen to 3°C below the preset boiler temperature limit, the appliance automatically resumes normal operation; the error message disappears.
DAMPER - FAULT	Change-over damper supply air/exhaust air faulty	Motor of change-over damper faulty, incorrect setting of limit switch, change-over damper jams. <u>Setting of limit switch: The contact must report closed in pellet operation --> see setting motor change-over damper</u>
NO CONNECTION	No connection between operating panel and main circuit board.	Cable connectors have worked loose Connectors back in place
		Damaged cable Replace connecting cable
		Operating panel damaged Replace operating panel
		Operating panel incorrectly installed Check mounting of operating panel (too tightly clamped)
SPECIAL CLEANING	Service display – Special cleaning	Possible problem caused by build-up of deposits in the appliance. Remove deposits from the appliance, in particular from the pellet burner block by means of the supplied cleaning brush. Then release key lock and clear error message by pressing the button 1/o.

35. After-sales service / How to order spare parts

AUSTRIA (Head office)

LOHBERGER Heiz u. Kochgeräte Technologie GmbH
Landstraße 19
5231 Schalchen
Telephone: +43(0)7742/ 5211-199
Telefax: +43(0)7742/ 58765-199
E-Mail: service@lohberger.com

Please note:

To enable our customer service to deal with repairs and supplying spare parts quickly and to your satisfaction, we require the following information with your service request:

- Your correct address
- Your telephone and fax number or email address (if available)
- The exact appliance designation (see nameplate)
- When can our customer service call on you?
- The purchase date
- An exact description of the problem or the type of service you are requesting
- Please have your invoice ready at hand

In this way you help us to save time and money and also to serve you more efficiently.

36. Technical data

Dimensions (installation dimensions)	Width x height x depth	mm	~ 855 x 1830 x 493
with panelling (optional)	Width x height x depth	mm	1075 x 1875 x 524
Flue gas connection	Diameter	mm	120
Combustion air connection	Diameter (oval)	mm	100
Fuel filling door opening	Width x height	mm	240 x 300
Fuel filling space	Width x height x depth	mm	250 x 275 x 375
Fuel filling height	Insert stove	mm	ca. 150
Fuel hopper	Pellet burner	Liter / kg	40 / ~ 30
Fuel consumption	Heating output min. /max.	kg / h	1,3 / 2,2
Heating time max.	Heating output min. /max.	h	24 / 14
Ash drawer	Insert stove	Liter	2,5
	Pellet burner	Liter	5,8
Water capacity	Boiler	Liter	24,5
Operating pressure	Max .	bar	3
Operating temperature	Max.	°C	95
Weight (without packaging)	Insert stove	kg	ca. 206
with panelling (optional)	Decorative glass inlay	kg	ca. 286
with panelling (optional)	Decorative tile inlay	kg	ca. 316

Output data:

Data for chimney calculation (according to DIN 4705)

Total heat output	wood / pellets (part load)	kW	9,3 / 8,4 (2,3)
Room heating capacity	wood / pellets (part load)	kW	3,4 / 2,7 (1,4)
Water heating capacity	wood / pellets (part load)	kW	5,9 / 5,7 (0,9)
Flue gas temperature	wood / pellets (part load)	°C	163 / 118 (68)
Flue gas mass flow rate	wood / pellets (part load)	g/s	9,7 / 7,8 (4,3)
Required discharge pressure	at rated heat output	mbar	0,12 (0,08)

Electrical connection data

Power supply	230 V AC / 50 Hz
Power consumption (start / operation)	400 W / 80 W

Table 4

37. Type testing / Quality certification



The stove type AqualInsert made by Lohberger, which is independent of indoor air, was successfully tested in compliance with the following standards:

- DIN EN 13229 (fireplace inserts including open fireplaces using solid fuels)
- Approval principles for the testing and assessment of fireplaces for solid fuels that are independent of indoor air, DIBt Berlin (Germany)
- Agreement according to art. 15a B-VG (Austrian law) regarding the preventive measures for small-scale heating appliances.
- Schweizerische Brandschutzzulassung der Vereinigung Kantonalen Feuerversicherungen (Swiss Fire Protection Approval issued by the Association of Cantonal Fire Insurers)

The test was carried out at the TÜV-SÜD in Munich (Germany).

Furthermore, the stringent requirements of the quality certification "Holzenergie Schweiz" for wood-burning fireplaces in residential areas are met.

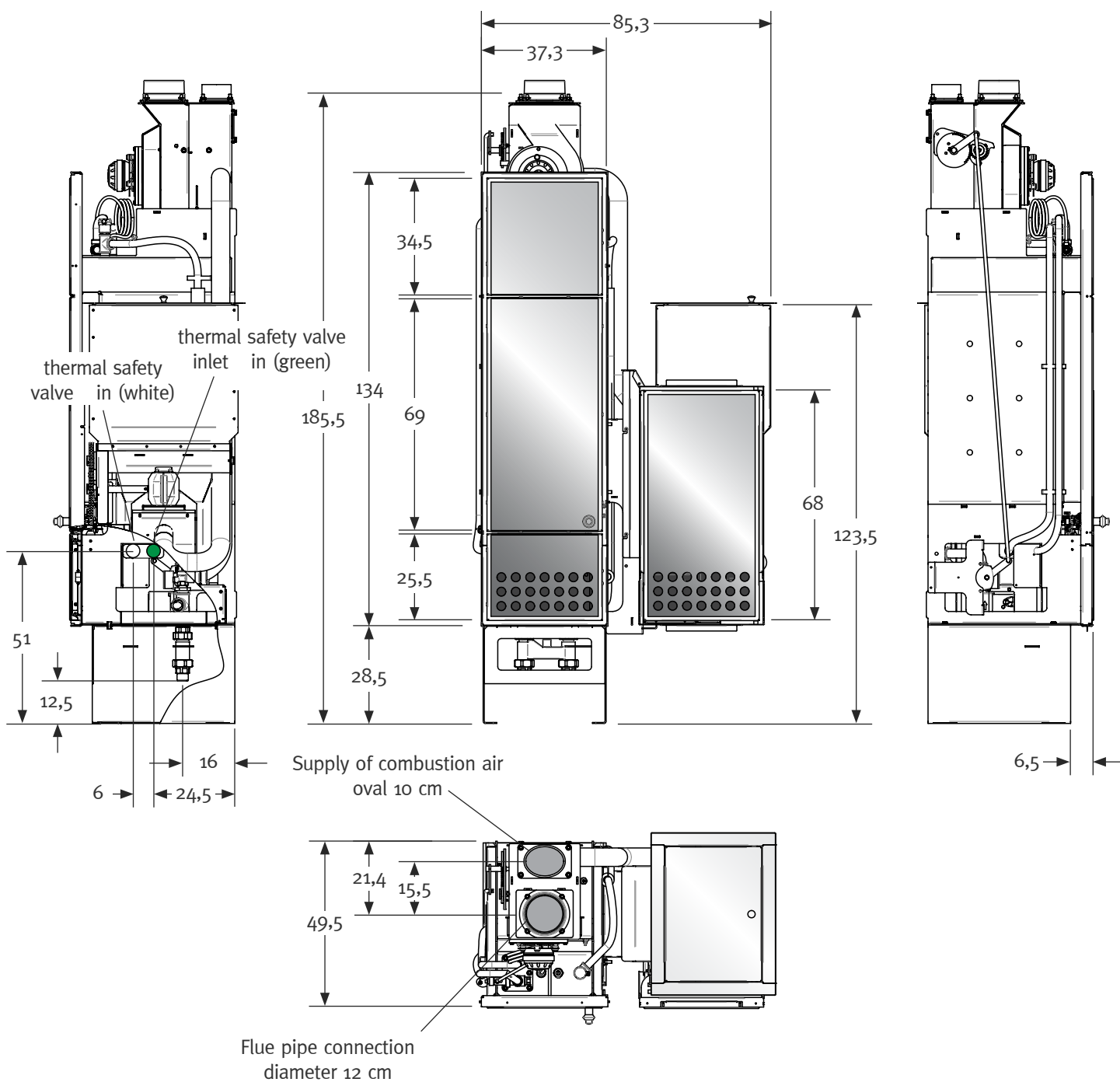
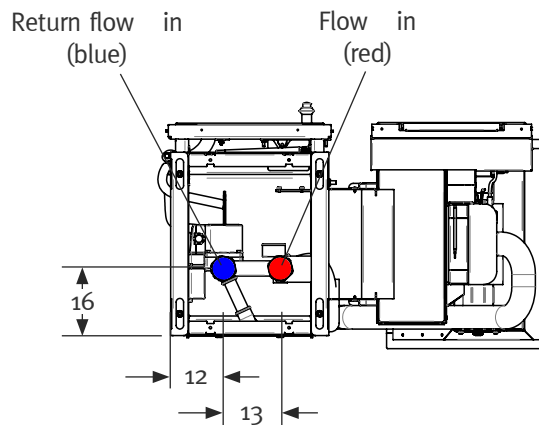
Amongst others the following exhaust gas limits according to the following German standards are complied with: Regensburger Norm, Stuttgarter Norm and Münchner Verordnung.

TÜV Test report number:	W-O 1211-00/09
DIBt-Approval:	Z-43.11-236
VKF-Test number:	19344
Certificate "Holzenergie Schweiz" Nr.:	Nr.: 0135

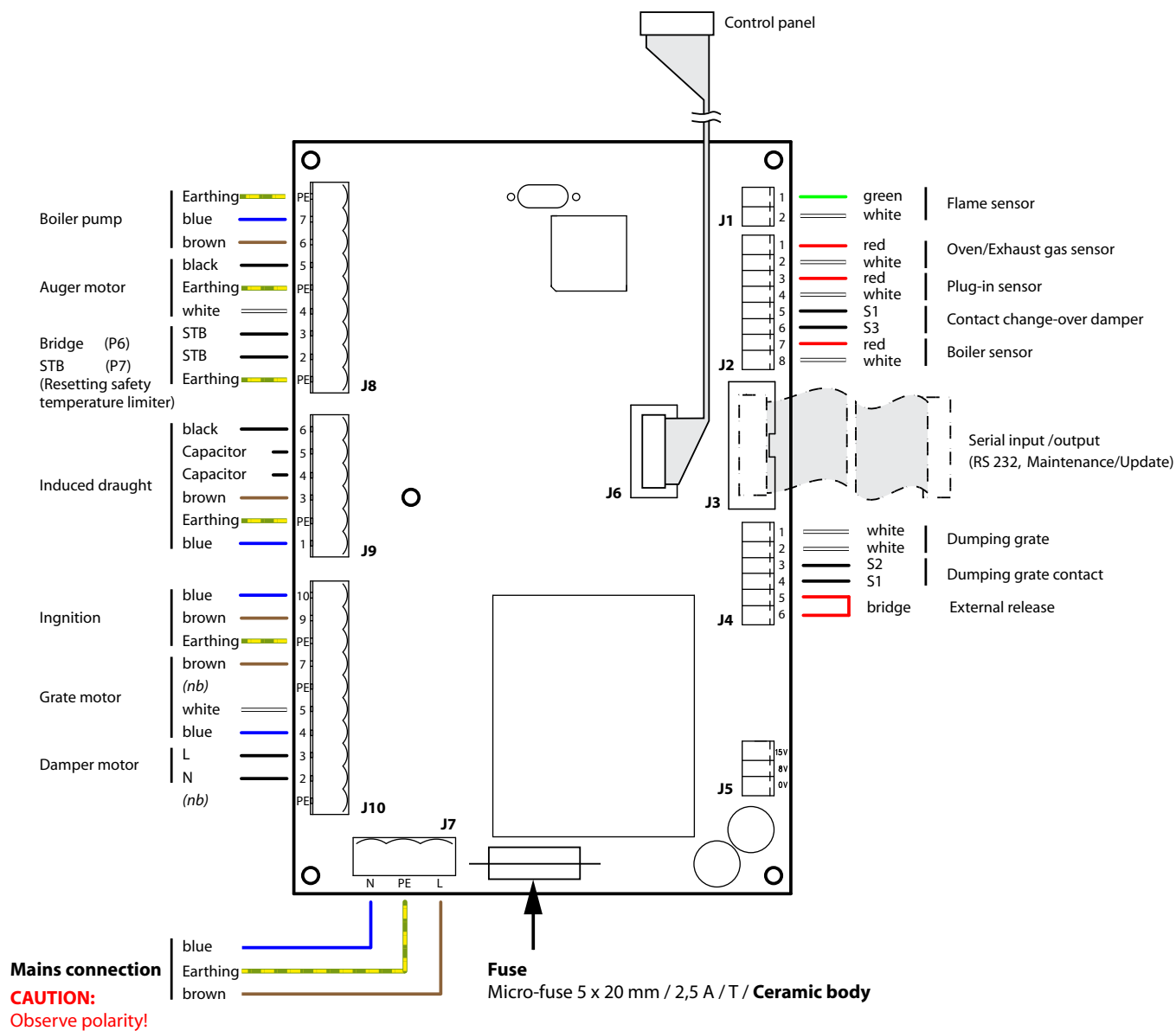
38. Appliance dimensions

Dimensions in cm

View from bottom



39. Diagram of connections



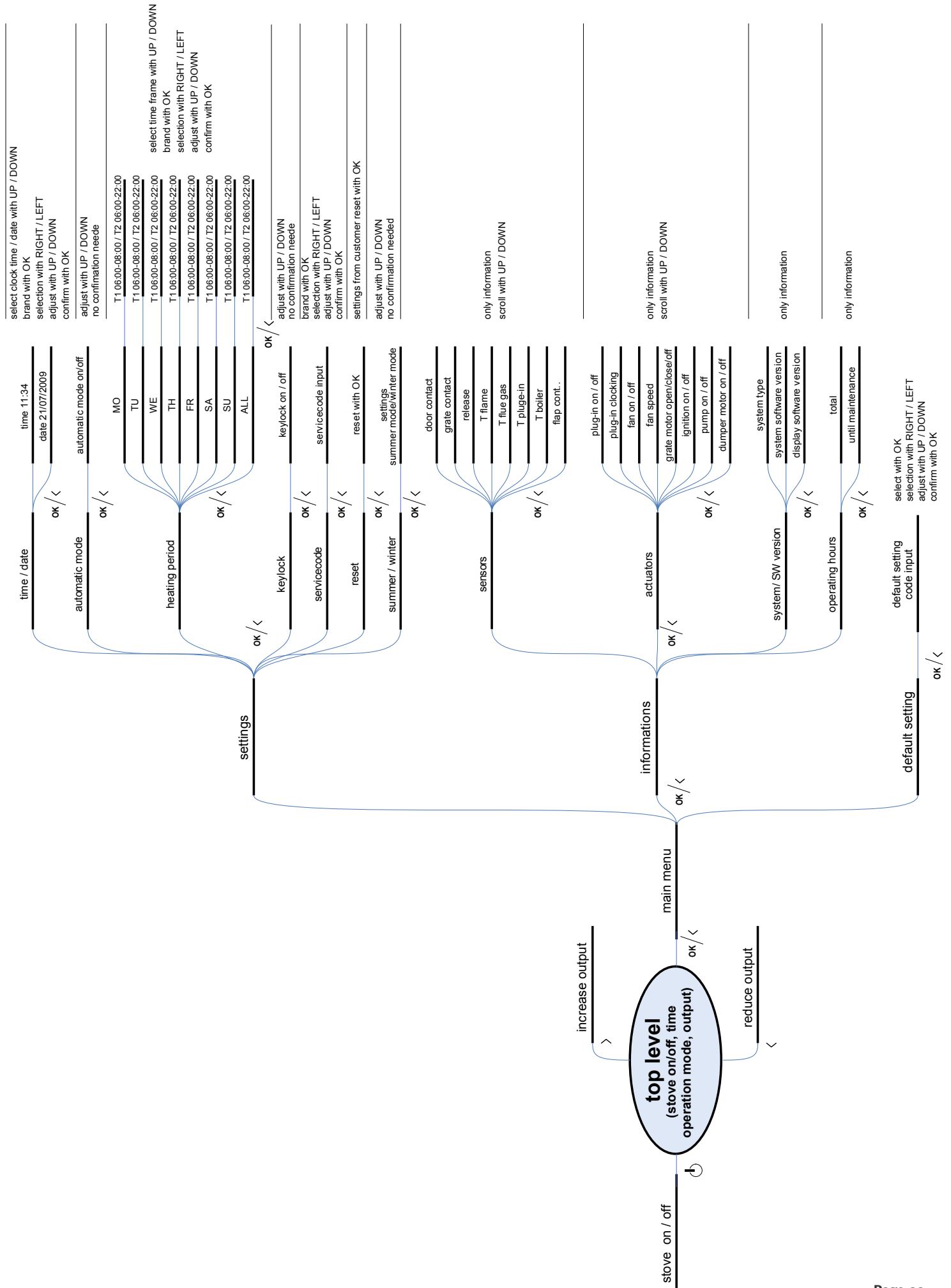
40. Operating panel language

Language	Switch position
German	
English	
Italian	
French	

Table 5

On delivery the language on the switch panel is selected according to the country to which the appliance is supplied. If required the language can be set by means of slide switches on the back of the switch panel (Table 5).

41. Menu - overview



42. Warranty

These warranty conditions are valid in all European countries where LOHBERGER appliances are sold by local specialist dealers. Warranty claims must always be directed to a local LOHBERGER specialist dealer or the dealer from whom you have bought the appliance.

WARRANTY

LOHBERGER grants a 3-year full warranty on verifiable defects in material or workmanship. Warranty claims will not be accepted in any case after five years following the manufacture of the appliance. Certain restrictions apply to some models and parts: for appliances with central heating insert the warranty depends either on correct specialist installation of a return flow temperature boost or the installation of a control cabinet (AME.4).

Exceptions

The warranty does not apply to the normal wear and tear on an appliance used for heating. These parts include for instance:

Fireclay - Changes in colour or expansion cracks due to the heating process can never be completely ruled out. However, they do not impair the functioning of the appliance as long as the fireclay remains in the firebox.

Glass panes (breakage of glass because of external action, changes on the surface due to thermal influences such as partly sintered fly ash or soot on the surface of the glass front)

Discolouring of paint due to overload or thermal stress

Seals (e.g. hardening or breakage due to thermal or mechanical stress)

Surface coatings (frequent cleaning or cleaning with abrasive cleaning agents)

Cast iron parts

(Cast parts subjected to high thermal load such as JETFIRE flame convergence plate and grate)

Pellets - Conveying device

Tilting grate, ignition element and temperature sensor of the Lohberger pellet module

START OF WARRANTY

The start of warranty is the time the appliance is handed over to the user. Please keep this user manual as well as the warranty card with the invoice in a safe place at all times. A prerequisite of our warranty obligation is that the appliance has been installed and connected according to our instructions and the applicable EN/DIN /Austrian standards and that it has been operated and correctly maintained according to our instructions.

REPAIRS

We will carefully check your appliance and establish whether the warranty claim is justified. If yes, we will decide in which way the defect should be corrected. In the event of a repair we will have it carried out correctly and competently on location or in our works. This does not affect the start of the warranty determined by the handover; if it is necessary to replace the appliance, the warranty period starts anew. If you send in your appliance for repair please enclose the proof of purchase.

COSTS

LOHBERGER accepts all costs for the duration of the warranty. Should we decide that your appliance is best repaired in our works, you will bear the transport costs and assume the responsibility for the transport.

LIABILITY EXCLUSION

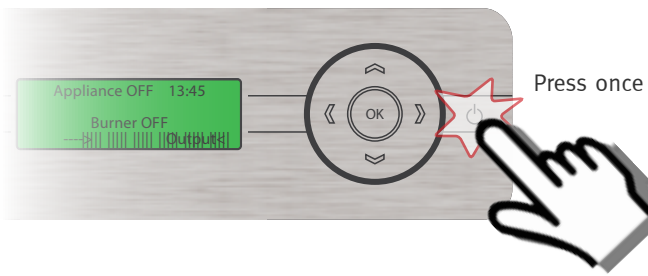
We cannot accept any liability for the loss or the damage of an appliance through theft, fire, vandalism or similar causes. Indirect or direct damages caused by a supplied appliance or arising from the delivery of an appliance are excluded from the liability unless the delivery was performed by LOHBERGER or by a transport company commissioned by LOHBERGER.

We cannot assume any liability for damages caused by chemical or electrochemical effects (e.g. pollutants in the combustion air, condition of heating water not in compliance with the VDI guidelines – e.g.: “calcification”, etc.) or as a result of installation not in accordance with the technical regulations or the LOHBERGER documentation. We will accept liability for visible paint and enamel damages that can be attributed to manufacturing defects only if such defects are brought to our attention in writing within 14 days following the handover of the appliance.

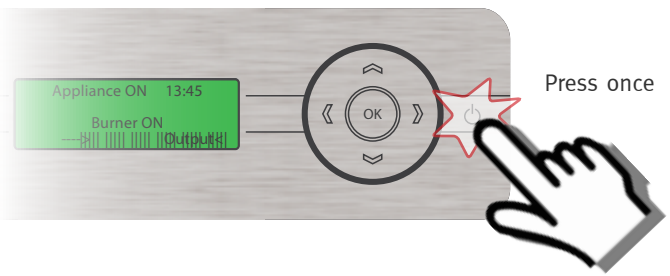
Modifications of the appliance or tampering by persons who are not authorised by us will invalidate our warranty obligation. Adjustment and conversion work are subject to billing.

SHORT INSTRUCTIONS

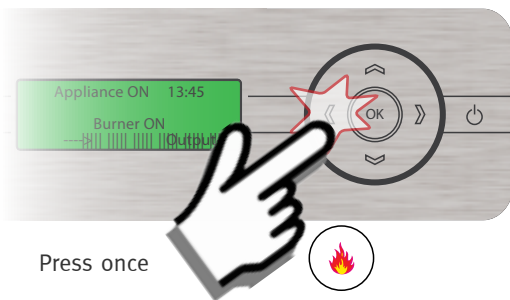
Switch ON appliance



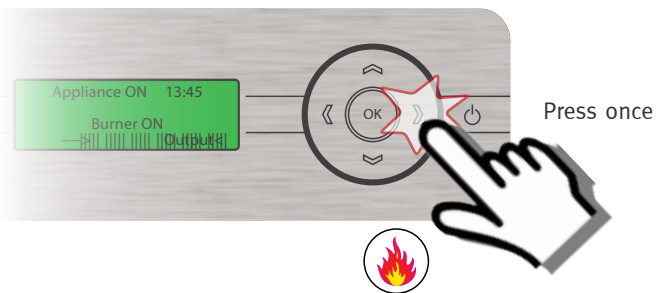
Switch OFF appliance



Reduce heating output

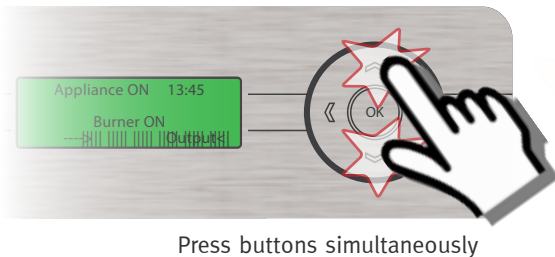


Increase heating output



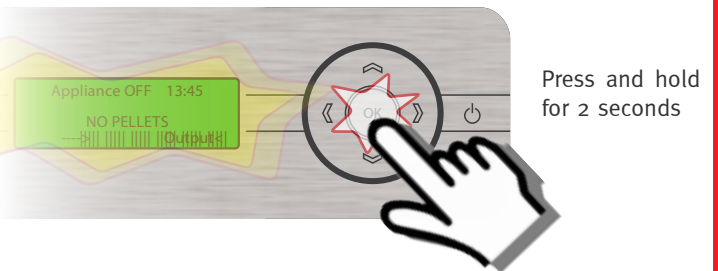
Key lock ON / OFF

(only possible with activated KEY LOCK function)



Reset error messages

(Description of fault and elimination of fault: see page 28)



Service number:
(+43)7742/58765-119

October to March

Monday to Thursday
Friday
Weekend / Holidays

7.30am to 5pm
7.30am to 4pm
8am to 4pm

April to September

Monday to Thursday
Friday

7.30am to 5pm
7.30am to 12noon

LOHBERGER
Natural Heating. Naturally Lohberger.

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